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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,293	04/12/2006	Becky Bossidan	2003005503	1337

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INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER
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RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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01/29/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/575,293	<b>Applicant(s)</b> BOSSIDAN ET AL.	
	<b>Examiner</b> Christopher RoDee	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-18, 20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-18, 20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 December 2008 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-14, 16-18, 20, 22, 23, 25, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant claims have been amended to specify a that an image formed using the black toner exhibits an optical density fading of less than 22.6 % when exposed to a light having a spectrum of from about 270 to about 800 nm for a period of time of about 216 hours. The specification as filed fails to disclose this range of optical density and do not disclose it for all "black toner" within the scope of the claims.

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The specification as filed discloses a single numeric value of inventive optical density at 10.3 %, as seen in the table on page 5. In this table, the single inventive black liquid toner is compared against a black liquid toner manufactured by the assignee, which is designated as liquid toner K3.1. This liquid toner has a light fastness of 22.6 %. A comparison for other properties is also made against an inkjet ink described in a foreign references.

Applicants take the position that the value of 10.3 % for the inventive liquid toner's light fastness is less than 22.6 % (remarks on response p. 7, bottom). Applicants also take the position that specification page 6, lines 1-25 discloses improvements for the claimed liquid toner as compared to comparative liquid toner K3.1. The specification discloses various features that permit "improved fade resistance". Based on these disclosures, "Applicant asserts that those of ordinary skill appreciate a description of numerous black toner particles exhibiting optical density fading less than that of K3.1 toner." Further, applicants take the position, "Since the specification references improvement n optical density fading compared to K3.1 toner, instructs that the degree of color fastness varies among pigments, and describes numerous options for making black toner particles with improved fade resistance compared to K3.1 toner, Applicant asserts that the specification adequately supports amended claims 1 and 25. The claimed range does not overlap the optical density fading of K3.1 toner."

The Examiner has carefully considered these remarks, the specification, and amended claims, but cannot agree that the specification describes the claimed light fastness range within the meaning of section 112, first paragraph.

It is evident that the specification does not describe a light fastness value of 22.6 % for the inventive black liquid toner. It is also evident that the specification does disclose a light fastness value of 10.3 % for the inventive black liquid toner. Beyond that, the specification provides no description of a numeric value(s) or range(s) of light fastness for the black toner.

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The specification teaches that selection of pigment can give improved fade resistance as noted by applicant (spec. p. 6, l. 20-25), but this does not disclose any numeric value(s) or range(s) of light fastness for the inventive toner. The artisan would see from the disclosure that light fastness can be modified, but the specification does not describe what values of light fastness are desired through this modification and optimization.

The claims as presented permit any light fastness of less than 22.6 %, such as 22.5 %, 15 %, 10 %, 5 % and zero %. The specification does not describe these values or any range at all that encompasses them.

The specification also does not describe any light fastness values for black toner other than a liquid toner. The claims include dry toner as evidenced by pending claim 18. There is no disclosure of any numeric light fastness value for a dry toner.

The claims as presented are not described by the specification within the meaning of section 112, first paragraph.

The claims also do not describe pending claim 12 as now presented. This claim recites a numeric light fastness range of 10.5 % or less. This is the same value as presented in the amendment of 7/28/08. The specification discloses a fading value of 10.3 % for the inventive black liquid toner. Beyond that, the specification provides no description of a numeric value(s) or range(s) of light fastness for the black toner. As noted above, the specification teaches that selection of pigment can give improved fade resistance, but this does not disclose any numeric value(s) or range(s) of light fastness for the inventive toner.

Applicants remarks concerning *In re Wertheim* are noted, but the fact situation in *Wertheim* is not applicable to the claims. In *Wertheim*, a range of values was already disclosed for the process of freeze drying coffee. Specifically, a coffee extract produced by percolation of

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water through ground roasted coffee was concentrated prior to foaming “until a concentration of 25 to 60% solid matter is reached.” Specific values at 36% and 50% were disclosed. The CCPA held that the “Fact that applicants’ foreign application describes invention as employing solids contents within 25-60% range along with specific embodiments of 36% and 50% warrants conclusion, in context of process for making freeze-dried instant coffee from concentrated coffee, that persons skilled in art would consider claimed process employing 35-60% solids content range to be part of invention...”. In the instant specification, no numeric range is disclosed, only a single light fastness value of 10.3 %. This single value does not provide basis for claiming a range of values of 10.5 % or less. The artisan would see from the disclosure that light fastness can be modified, but the specification does not describe what values or range of values of light fastness are desired through this modification and optimization and it does not provide a disclosure of the claimed range.

Claim 13 is similarly without basis in the specification as filed. The specification discloses only a single chroma change value for a liquid toner at +0.01. The specification provides no description of a numeric value(s) or range(s) of chroma change for the black toner other than +0.01. Although the specification does teach that a comparative toner has a change in chroma of +3.45, this does not disclose that all values less than +3.45 are the invention. Further, there is no disclosure of this change in chroma for other types of black toners, such as dry toners. The specification is silent to a numeric value for black toner other the one disclosure for a liquid toner.

New matter is present in the claims under consideration.

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Claims 1-14, 16-18, 20, and 22-26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for liquid toners having a change in optical density of 10.3 % after about 216 hours of exposure, does not reasonably provide enablement for all toners, liquid and dry, having a change in optical density of as little as zero or other small values for all exposures of about 216 hours. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

As noted above, the specification discloses a single inventive black liquid toner composition having a change in optical density of 10.3 % after about 216 hours of exposure. The instant claims include all black toners, liquid, dry, and aerosol, that have an optical density fading of less than 22.6% when exposed to a light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time of about 216 hours. The instant specification discloses a single composition having characteristics produced in the manner specified on specification page 4. The specification teaches that the effects of the invention are achieved by combining a carbon black colorant with other colorants, such as a blue or violet pigment (spec. p. 3, l. 4-9). This limited disclosure does not provide sufficient teaching of how to obtain an optical density fading of less than 22.6 %, more specifically 10.5% or less in a dependent claim, when exposed to a light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time of about 216 hours. The artisan contemplating the claims would have insufficient guidance of how to obtain optical density fading values of, for example, 1%, 5%, or 10%, .

Applicants take the position in the response that the claims as now presented provide sufficient guidance to obtain the desired light fastness and change in chroma because “the

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present specification enumerate specific light fast carbon black and fade resistant 'balancing' pigments that may be combined and evaluated for fade resistance. Blue, violet, yellow, orange, red, brown, green, etc. light fast pigments are named. Page 7, lines 8-14 even describe the methodology for evaluation. Page 7, lines 24-29 describe considerations to remember in selecting pigments. Page 2, lines 8-18 describe additional considerations."

A review of the specification shows that the pigments disclosed are specific blue and purple pigments. The claims, however, are not limited to these pigments. The claims permit any pigment. Applicants are referred to the enclosed citation to Diamond, specifically at page 245. This page of the text provides a Table of "Typical Pigments for Liquid Electrostatic Toners". As seen here, "typical pigments" include over 50 pigments with colors ranging from yellow, orange, red, blue, green, violet and black. The instant claims include any of these pigments, in any combination, in any amounts, to give the desired light fastness and change in chroma. Just experimenting with 50 of these pigments would give  $3 \times 10^{64}$  different combinations to consider (i.e., 50 factorial). Although a reasonable amount of experimentation is permitted if the experimentation is routine, the sheer magnitude of the experimentation required to ascertain effect black toners within the scope of the instant claims is unduly burdensome on the public.

Applicant also refers to the considerations disclosed for determining the desired pigments on page 7 of the specification. This passage states that the non-neutral hue of the carbon black is determined and then 2 or more balancing pigments are added to neutralize the hue. This passage also states that once the toner is produced for a given combination of carbon black and two pigments, the amounts of the pigments and carbon black and/or other pigments are added to give the desired hue. This disclosure does not provide direction, but states that the artisan is left with a trial and error procedure. And, even if the artisan was able to



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produce a single or a few liquid toners within the scope of the claims having the desired light fastness and chroma using a blue and purple pigment, the artisan would still be left with undue experimentation on how to use any of the green, orange, red, or yellow pigments disclosed in Diamond, in what ways to combine them, and in what amounts. Further, there is no disclosure of how to prepare a dry toner having the required characteristics.

The fact that the specification teaches the artisan how to test for the result desired does not teach the artisan how to obtain that result within the meaning of section 112, first paragraph.

Applicants note "Since one of the light fastness indicators in the actual example was very low, it is conceivable that other values, such as optical density fading, might be similarly low in other formulations." The guidance required in the specification to meet section 112, first paragraph, must be more than conjecture. There must be reasonable guidance to practice the scope of the claimed invention without undue experimentation. That fact that values are "conceivable" or "might be similarly low" does not meet the requirements of US Code.

The lack of enablement of the claimed invention is further evidence by the fact that the claims include within their scope inventions not disclosed in the original specification, as discussed in the "written description" rejection under section 112, first paragraph, above.

The specification provides guidance of only one liquid toner formulation that has the carbon black, other pigments, and resin disclosed. No other guidance of the correct combination of components is provided. Although experimentation is permitted when considering the enablement requirement of section 112, the obligation is on applicants to provide reasonable guidance to compositions that will obtain the claimed results. In this situation, there is insufficient guidance of how to combine pigments in a liquid black toner to obtain other than a change in optical density of 10.3 % after about 216 hours of exposure.

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Although the level of skill is high in the toner art, the predictability is low, particularly where the claims include features substantially different from those disclosed.

The artisan would be faced with undue experimentation of how to obtain the toners - dry, liquid, and aerosol - for the scope of the claims.

Claims 1-14, 16-18, 20, and 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of the instant claims includes one or more properties based on an image formed using the black toner. Both toner (article or composition) claims and process of using claims are present. The tested properties include light fastness, chroma, and change in chroma. The claims, however, fail to disclose the method used to print an image. As is well known in the art, numerous methods are known to print a toner image include electrophotographic and ionographic. Various methods of development are known: cascade development, aerosol development, powder cloud development, magnetic brush development, and jumping development, among many. Further, even in the method of imaging claims that are more specific, the toner image remains as a powder image (i.e., the image is not fixed or fused to a receiver – a printed image is not actually produced). There is no disclosure of which known fusing or fixing method (e.g., cold pressure, flash fixing, solvent fixing, heated roller fixing, etc.) would produce the light fastness, chroma, and change in chroma desired in the claims (see Diamond, pp. 145-164). See *Honeywell International Inc. v. International Trade Commission*, 68 USPQ2d 1023. Because the artisan would have to resort to conjecture to determine which method of imaging is employed to produce the image that is tested, the claims as presented are indefinite.

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Claim 26 is also indefinite as presented because it is unclear what a "practically unchanged" chroma value is. The specification discloses a change in chroma of +0.01, but because the claims do not use this value it appears that some other value is claimed. Without guidance to the scope of "practically unchanged" it is unclear what values are included within the claim's scope. There is also not clear antecedent basis for this limitation in the specification as filed.

### ***Conclusion***

Pending resolution of the issues under section 112, first paragraph, above, no art rejections are applied because the claims are not enabled and/or are so indefinite as to preclude consideration of prior art. However, the art will be reconsidered when the claims are brought into compliance with section 112.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on Monday to Thursday from 5:30 to 4:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher RoDee/  
Primary Examiner  
Art Unit 1795

28 January 2009